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ABSTRACT

The Philadelphia Art Commission refused to approve the proposed Eastwick/Pepper Educational Complex that combines a high school and a middle school into one facility. Their rejection was based on (1) the prohibitively large numbers of children the school is to serve, (2) the overly broad age span of the students, and (3) the inadequate outside space. Professional experts from the fields of education, psychology, urban planning, and architecture, as well as three members of the commission, participated in two symposia to discuss these objections. The task force, concluding that the design features of the proposed school complex were sufficiently adequate to override the objections, endorsed the proposed complex. (Author/MLF)

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commission to investigate relationships between educational performance and size of student body may 11, 1970

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REPORT ON TASK FORCE
DIVISION OF SCHOOL FACILITIES

SCHOOL DISTRICT OF PHILADELPHIA

August 1, 1970

ACKNOWLEDGEMENTS

The School District of Philadelphia wishes to thank those persons who participated in the two symposiums held during early 1970 to discuss problems of the large schools.

Appreciation is especially extended to the members of the Philadelphia Art Commission who voluntarily gave of their time to present their views and to participate in the discussions.

The symposiums were made possible through a grant from the Educational Facilities Laboratories, New York.

COMMISSION TO INVESTIGATE THE RELATIONSHIP BETWEEN EDUCATIONAL PERFORMANCE AND SIZE OF STUDENT BODY

May 11, 1970

TASK FORCE

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PHILADELPHIA ART COMMISSION

Mr. Robert Engman - Sculptor

Mr. Louis I. Kahn - F. A. I. A.

Mr. Ian McHarg - Landscape Architect

SCHOOL DISTRICT OF PHILADELPHIA

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INTRODUCTION

The 1969-72 Capital Improvement Program of the School District called for the construction of a new high school in the Eastwick section of West Philadelphia and also the Pepper Middle School in the same general area. The site for these schools, located at 84th and Lindberg Boulevard, contains approximately 39 acres.

In partial response to a desire for an educational complex for this section of the city, and also as a consequence of these two schools sharing the same site, a decision was made to combine the high school and middle school into one facility. As a result of the study done by the architects to determine the feasibility of combining the two schools, it was found that there would be no overall saving of space in the building, but rather a more beneficial redistribution of space throughout the building. In other words, whatever space was saved by combining boiler rooms, auditoria and like spaces was redeployed into usable educational space. It was the contention of the School Facilities Division that the above decision resulted in a better facility, educationally speaking. The architectural firm chosen to design the Eastwick-Pepper Complex, Caudill Rowlett, Scott, is one of the Nation's foremost in the field of school architecture, enjoying a national reputation. The architects proceeded through the normal channels of developing a scheme for the buildings, working closely with School District personnel. The schematic drawings were approved by the Facilities Division and were informally presented to the Board of Education.

One step in the planning and development process for all new schools is the presentation to and approval by various municipal bodies. One such body that must approve the designs of new schools is the Philadelphia Art Commission. The Art Commission is an appointed body composed of prominent citizens of the City. The Eastwick/Pepper Educational Complex project was presented to the Philadelphia Art Commission early in 1969. The Art Commission twice reviewed the project and twice refused to approve it. The last rejection was in July of 1969. The Art Commission gave for its basis of rejection the following points; 1) the enormous number of children the school is to serve (3,000 high school and 1,600 middle school students); 2) the span of eight years from the youngest to the oldest child who would be intermixed in the public spaces and 3) the totally inadequate outside space.

Although the Facilities Division felt that these objections were not within the purview of the Art Commission, it was decided to thoroughly investigate the objections raised. A proposal was made to the Educational Facilities Laboratory to seek funds to conduct a symposium on the above questions. This proposal was subsequently funded by Educational Facilities Laboratory. Professional experts from various disciplines including education, psychology, urban planning and architecture, and from different parts of the country were assembled to deliberate on the above questions posed by the Art Commission. The Philadelphia Art Commission sent three of its members to sessions of the Task Force to present their views and to participate in the discussions. The results of the work of the members of the Commission are contained in the attached report.

COMMISSION REPORT

The existence of this Task Force and the task assigned it by the Philadelphia School System result from objections raised by the Philadelphia Art Commission in the process of its review of the proposed design solution for the Eastwick/Pepper School.

The Committee recognizes both the significance of the problem of size, its relation to educational quality and human aspiration, and the elusiveness of precise answers to the complex and interrelated issues and concerns involved. Indeed the composition of this Committee reflects the School Board's understanding of the fact that there are no easy or absolute answers to these questions; hence the effort to draw on widely experienced educators and architects. The wide ranging observations made by members of the Art Commission, with whom it was our pleasure to meet, suggest the importance of a continuous dialogue between the Commission, the School System, and the neighborhoods and communities affected by the new schools being built in Philadelphia. While this particular school may have served as a convenient vehicle for raising broad philosophical, social, and educational issues, as well as more mundane professional concerns, these can better be explored in another and earlier context.

Questions raised by the Commission had been earlier decided by both educational and planning authorities, in many cases long before the specific architectural expression upon which the Art Commission is required

to pass judgment was begun. On these decisions the design solution was, of necessity, based.

At this late stage, the political urgency for new schools, safe schools, uncrowded schools intrudes and, quite legitimately, casts its own imperative shadow on any deliberations. The community members of our Committee quite justly expressed this concern.

As a Committee, however, we have not been guided by the pressures of time or school space, valid as we believe these concerns to be. We have, therefore, addressed our report to the specific objections to the "Eastwick Community Educational Complex" as stated in the Art Commission's letter of July 2, 1969, addressed to Mr. Edward W. Deissler, Director, Department of Architecture and Engineering, School District of Philadelphia.

By the nature of the objections raised we are, as we have suggested, faced with a number of fundamental philosophical, social and educational issues. We shall be concerned with these, but we do not presume to answer all of them precisely, or resolve the different perspectives definitively. We shall seek to state our best professional judgment, fully recognizing the tenuousness of much educational evidence, and avoiding dogmatic positions on questions of judgment.

In the course of our deliberations we have been privileged to listen to three members of the Art Commission; Messrs. Engman, Kahn and McHarg, and we have discussed with them the Art Commission's concerns as they

individually perceive them. It has been a stimulating experience and we express to them our appreciation for their willingness and interest in meeting with us.

We share their concern in regard to the goals and processes of education and their concern about the impact which the physical environment has on the intellectual and spiritual well-being of the pupils who "live" in the schools. In response to this concern we are impressed with the variety of approaches which are being developed by the Philadelphia schools in providing new schools for the City. The North Philadelphia Study approach, the Mantua "mini-schools", and the Parkway School reflect this diversity and variety. Few other cities are more open or creative.

The particular school in question is planned to accommodate 4, 600 pupils - 1, 600 in the Middle School for grades 5-8, and 3, 000 in the upper grades 9 and 10. The "complex" is to be located on a 39. 5 acre site. The Wolf Elementary School of 424 pupils is located on a 2. 3 acre site approximately two blocks from the High School site. Adjacent to it on a 10 acre site there will be a parochial elementary school of 900 pupils. The proposed school site and the schools are components of the Eastwick Redevelopment Project. The school in question is designed as two separate school units, each unit consisting of four houses with its own gymnasium, lunchroom, and shops centrally located. The two units share a theater and an Instructional Materials Center.

We address ourselves to the objections raised by the Art Commission:

1. "The enormous number of children the school is to serve." We discern two rather separable issues in this objection. The first relates to the number of pupils accommodated for instructional purposes; the second to the numbers coming from the neighborhood and community by school bus, public transportation, and on foot, all converging on one site.

We hold that within the school the total capacity is less significant than the educational and space arrangements provided for the students and staff. In our judgment, size is not a factor which can have precise boundaries assigned to it for determining educational quality. There are many excellent schools, both urban and suburban, which would be considered very large in terms of the Eastwick plan. It is, educationally, less a question of total size than of organization, program, staff and of the quality and quantity of the spaces provided for the conduct of the program. In the present school, the organizational plan is essentially that of sub-systems; four for the middle school and four for the high school. Each sub-system will consist of 400 or 750 pupils respectively. Each unit will have its own separate organizational structure, teaching, counseling, and administrative staff, and space accommodations. In each of these sub-systems the administrators, guidance personnel and teachers can know each pupil personally. The student patterns of interaction can be diverse, yet personal. For the school as a whole, the size permits specialization of both personnel and program. Within each of the sub-systems the variety of relationships is encouraged by both the educational specifications and the architectural solution.

Ideally, the range of relationships might be indicated in the following manner:

RELATIONSHIPS

Teachers	Pupils	Activity
0	1	The pupil alone in library, carrel, etc.
1	1	Counseling, guidance, conference
1	5-10	The seminar
1	20-30	The "standard" class
3-5 in teams	75-150	The large group presentation
Performers	300 & over	The assembly, the performance, the presentation of films, etc.

The present school plan provides each of its sub-units with most of this variety of relationship possibilities. Whether these possibilities are siezed upon depends, of course, on decisions of the people who carry out the educational plan. It is, therefore, the human organization which is the central and controlling element in determining whether the school oppresses or releases the human spirit, whether the climate is open or closed, permissive or repressive, democratic or authoritarian - the school building can but help.

We view the proposed plan as a very positive physical response to this organizational and educational plan and one which is certainly of human

scale. We would suggest, however, that each unit, through attention to textures, to furniture and equipment, to the art and sculpture which can be included, be given an individuality of its own. And this individuality might well be "open" to be, in part, created by the desire and through the work of the pupils themselves.

There are, of course, times when students must move not only within their own units but to the more central spaces. Again, with modern modular and other scheduling approaches, "massive" shifting of pupils in a rigidly controlled fashion need not occur frequently. To the degree that it does happen, we would suggest some opening up of the spaces between the house components and the central elements of the plan. Thus, attractive courts or vistas could be added and contribute to the ease and comfort of movement during the few peak load times.

The second part of this question of size relates to access to the site and to the school. Access is planned from three directions - north, east and south. Public transportation will bring 54% of the high school student body and will require no parking facilities. Thirty percent of the middle school enrollment will use school buses, entering from a service road leading from 84th Street. These school buses will not remain at the school, and the total number involved should be approximately 18, since these buses will have multiple routes and student loads. If the two school units have different opening and closing times, as we believe they should, this school bus movement would be further dispersed. The remaining students will walk and will generally approach the site from other directions.

There remains the question of faculty parking. We endorse the suggestion made to us that the perimeter of the site itself be considered for this purpose, either by the use of perimeter service roads or by the provision of small parking clusters scattered around the outside edge of the site. With imaginative landscaping, space for automobiles should neither blot the site with an asphalt sea nor usurp the possibility of creating an imaginative outdoor space with an emphasis on ecology, and an opportunity for the students themselves to share in creating an exciting landscape. We commend to the attention of the landscape planners of this project the adventure playgrounds of Scandinavia, and we hope that costs permit additional earth deposits to be provided in order to make it possible to vary the flat, man-made, land-fill feeling of the entire area.

2. "<u>The span of eight years from the youngest to the oldest child who would be intermixed in the public spaces.</u>" It is our understanding that the middle school will be for grades 5-8 and the high school for grades 9 and 10. If this is so, then six years is the age span currently planned for. Members of the Committee who have organized and led six-year, junior-senior high schools were critical of this traditional pattern of organization but, at the same time, were very favorably disposed to the middle school concept, which, as they pointed out, is part of a nationally developing pattern. Again, it is necessary to mention that the educational plan and the building design call for practically complete physical separation of the lower and upper age groupings.

The only shared spaces are those of the theater and the central Instructional Materials Center. Thus, in any situation the desirability of mixing the entire age span is an administrative one, in no way forced by the building design. On the other hand, for some of the ablest and more mature students, the opportunity is an option. Neither the educational plan nor the building design impose this as a requirement. The separation of the units permits each age grouping to go its solitary way if that is judged to be most appropriate. The school-time use of the outdoor space is under the supervision of the school personnel and there need be no indiscriminate mixing of age groups for play or physical education activities.

It is our further understanding that only cadet teams (non-varsity) will use this site - with no spectator space required. Indeed the absence of the 11th and 12th grades themselves implies that most, if not all, of the athletic activities will be of an intramural nature.

The one "uncontrolled" situation is that of the arrival and dismissal of students. In this connection, we need to remind ourselves that in the home, the neighborhood, and the community there is the probability of contact over a much greater age span. In a healthy, and therefore safe community, this free movement of children and adults would probably elicit no concern but would be considered "natural." To the degree that the community has a concern over age separation, the problem is simply resolved, as we have suggested earlier, by establishing different opening and closing times for the two school levels.

We see, then, advantages in the age span - indeed we would like to suggest that complete separation by small age groupings can create its own problems; conversely, legitimate concerns for indiscriminate age mixing can easily be accommodated in the present plan.

3. "The totally inadequate outside space." As we have noted, the total site area is 39.5 acres, plus the 2.3 acres currently occupied by the Wolf Elementary School. There is also a small park between Wolf and the proposed Eastwick School. What constitutes "adequacy" is, of course, not amenable to precise determination. Standards for suburban schools are, perhaps unfortunately, simply not applicable to the urban scene. The minimum standards which the School District of Philadelphia has adopted, and which are being used in the planning of all current schools, are as follows: for elementary schools up to a capacity of 960 pupils, 2.4 acres; for middle schools of 1,650 pupil capacity, 7 acres; and for a high school of 3,000 pupil capacity, 10 acres. By these criteria, the present site would certainly be adequate. Actually, the present site exceeds these measures by 80%.

Standards are, of course, subject to the objection that they are too low. We ourselves would wish to see them raised whenever possible, but they are not out of line with those of other urban communities. A study of the Boston Schools by the Harvard Center for Field Studies for the Urban Redevelopment Authority established site sizes for that city at 2.4 - 4.6 acres for elementary schools of 350-700 pupils and of 5.9 - 6.3 acres for middle schools of 600 - 800 pupils. The Minneapolis Board of Education site guide-

lines provide for 50,000 to 130,000 square feet for building coverages; 367,000 square feet for outdoor physical education and athletics, plus parking spaces on the basis of one for each two full-time employees. For senior high school, at least 15 acres are required.

We have already made reference to the fact that the present complex does not include a full high school component, thus resulting in the lessening of need for interscholastic spectator sport space. We would again emphasis the need to minimize the use of the site itself for parking of faculty cars. Imaginatively landscaped, we believe this site can be both adequate and exciting.

4. The Commission's final objection is related to stress. The Commission's letter stated, "The Commission feels the enormous numbers under one roof would be horribly oppressive to the human spirit and such a density could produce in the children pathological patterns of behavior derived from intolerable stress situations."

We have earlier commented on the fact that "the enormous numbers", if in fact they are enormous, need not and probably will not be perceived within the school because of the decentralized sub-system plan of organization. A school of 2,000 pupils, built around the more traditional educational plan and with a traditional double-loaded corridor design, could much more validly be open to this criticism. The present program and building design is essentially one of eight separate schools, each self-contained and each with a variety and network of spaces within its total area. The usable space per pupil, both within each unit and for the school as a whole, not only equals but exceeds the standard called for by the School Facilities Division. The

present plan results in an allotment of 120 square feet per pupil in the high school and 113 square feet per pupil in the middle school. The standards for the system are respectively 118 square feet per high school pupil and 110 square feet per middle school pupil.

But stress need not, indeed should not, be restricted to an analysis of a single-variable causal relationship such as density of space utilization. It is at least arguable that the human factors in a social system are perhaps more significant. Several members of the Committee noted the stress which can and frequently does accompany the small school and the demands imposed on the too few students to respond to tasks for which they are ill-suited or in which the "stress" and tendency toward pathological behavior produced as a result of the all-too-pervasive attitude of boredom on the part of many inner-city adolescents.

Size is a variable interactive with the psychological state of the person. What is needed, perhaps, is a far-reaching re-evaluation of how schools are to be both therapeutic and how they will be able to prepare young people (who in many cases are not going on to college) for the future in a way that does not make them more alienated and angry through that experience. This means not only individualized instruction and improved guidance services, but equally if not more importantly, that the school should be an active part of the community, and at the same time, stimulate internal activities in the school itself on a higher level of "aliveness." The value of size can be that it allows more possibilities of development of many different kinds of temperaments and talents.

The answer to stress, then, appears to us to be "it depends!" It depends on the sensitivity and creativity of the teachers and staff who plan and help to create the program and the organization. Rigidity, conformity, and dullness are frequent companions of stress, as is size in terms of its interrelationship with these. If, in the minds of some, stress tends to be the companion of large size, the answer is that it need not be, and indeed is not in those cases where the human organization is designed and performing in ways conducive to participation, to variety of learning styles and rhythms, and to individual growth and development. The absolutely essential element is a sensitive and responsive staff of administrators, counselors, and teachers.

In sum, therefore, we endorse the presently proposed educational and architectural solution. We would not be so presumptuous as to imply that either in terms of numbers, organization, or physical structure we might not like to see quite different arrangements by the year 2000. But for the immediate future, and to the best of our ability to judge the direction of educational change, we believe that the plan submitted is both imaginative and forward-looking.

SUMMARY

The schools in the City of Philadelphia, like every other urban area, are characterized as being large. This characteristic of largeness has been the inevitable development of schools in a densely populated area. Many factors have contributed to the situation whereby all urban schools have large numbers of students enrolled. Further, there has always been ample justification for large schools such as scarcity of land in the urban area, limited resources, high density of population, economic efficiency of large structures, and an enriched curriculum. Until recently, the quality of largeness in school buildings has not been considered either good or bad, but rather a necessity. Now, however, some quarters and sources have questioned the desirability of largeness and some critics have gone so far as to declare that large numbers of persons housed in one structure may adversely affect human behavior.

There is little research focused upon a purported causal relationship between large numbers of students and human behavior. There have been studies made of the relationship between large schools and operating efficiency, extent and size of curricular and extra-curricular programs, and school-community, just to mention a few; but no significant research can be found to substantiate a causal relationship between large numbers of students in a school and deviate behavior.

The Panel of experts assembled by the School District addressed themselves to the whole problem of largeness and its ramifications as it relates to the Eastwick/Pepper Educational Complex.

Concerning the large numbers housed in the school, the Commission stated that total capacity is less significant then the educational space and arrangements provided for the students and staff. Further, both the middle and high schools were internally sub-divided into houses comprised of 400 and 750 students respectively to reduce the "large number atmosphere" and to encourage student identity in smaller groups. The proposed Eastwick/Pepper Plan was considered as a very positive physical response to this organizational and educational plan which is certainly of human scale.

The age span, from 11 to 16 years of age for this building, was considered by the Task Force. The Task Force concluded that perhaps there are advantages in the age span proposed for the school even though it is greater than in most schools. In a healthy and, therefore, safe community, this inter-mingling of children and adults (persons of wide age range) is considered normal. It was, therefore, reasoned by the Task Force that much mingling would be considered normal in a school such as the Eastwick/Pepper Schools.

The Task Force also noted that in spite of the fact that the site was criticized as being too small, it was, in fact, almost three (3) times the normal size devoted to separate high schools and middle school sites. The site was adjudged to be both adequate and exciting.

The final objection to which the Task Force addressed themselves was that related to stress. Stress cannot be related only to a single variable

causal relationship such as density of space utilization. Rigidity, conformity, and dullness are frequent companions of stress, as is size in terms of its interrelationship with these. It was, therefore, concluded that a sensitive and responsive staff working in an organizational environment planned to militate against large masses of humanity and a physical structure designed to house such an organization might be the best insurance against stress producing environments.

The Task Force concluded by endorsing the proposed educational and architectural solution as being acceptable for the immediate future.